

Natural Gas Analysis Report SAN JUAN DIVISION

AUG 13 2015

Sample Information

30-045-32985

Sample Information	
Sample Name	BERGER A2S BH
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-08-12 07:47:52

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)	
Nitrogen	12.5504	0.0	0.12139	1.383	
Oxygen	0.3182	0.0	0.00352	0.028	
Methane	84.9130	859.6	0.47033	14.419	
Carbon Dioxide	0.0554	0.0	0.00084	0.009	
Ethane	1.4124	25.1	0.01466	0.378	
Propane	0.0606	1.5	0.00092	0.017	
I-Butane	0.0749	2.4	0.00150	0.025	
N-Butane	0.1417	4.6	0.00284	0.045	
I-Pentane	0.0616	2.5	0.00153	0.023	
N-Pentane	0.1068	4.3	0.00266	0.039	
Hexanes	0.1540	7.3	0.00458	0.063	
Heptanes	0.1304	7.2	0.00451	0.060	
Octanes	0.0185	1.2	0.00073	0.009	
Nonanes	0.0021	0.1	0.00009	0.001	
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000	
Water	0.0000	0.0	0.00000	0.000	
Total:	100.0000	915.9	0.63012	16.499	

Results Summary

Result	Dry	Sat.	
Total Normalized Mole%	100.0000	100.0000	
Pressure Base (psia)	14.730		
Flowing Temperature (Deg. F)	65.0		
Flowing Pressure (psia)	25.0		
Gross Heating Value (BTU / Real cu.ft.)	917.6	901.9	
Relative Density (G), Real	0.6310	0.6311	
Compressibility (Z) Factor	0.9981	0.9978	
Total GPM	16.499	16.317	

Natural Gas Analysis Report

SAN JUAN DIVISION

Sample Information

Sample Information	
Sample Name	BERGER A2S INT CASING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-08-12 07:41:41

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	0.8032	0.0	0.00777	0.089
Oxygen	0.0145	0.0	0.00016	0.001
Methane	95.5283	967.1	0.52913	16.228
Carbon Dioxide	0.7219	0.0	0.01097	0.123
Ethane	1.6450	29.2	0.01708	0.441
Propane	0.0716	1.8	0.00109	0.020
I-Butane	0.1326	4.3	0.00266	0.043
N-Butane	0.2893	9.5	0.00581	0.091
I-Pentane	0.1297	5.2	0.00323	0.048
N-Pentane	0.2168	8.7	0.00540	0.079
Hexanes	0.2951	14.1	0.00878	0.122
Heptanes	0.1500	8.3	0.00519	0.069
Octanes	0.0010	0.1	0.00004	0.001
Nonanes	0.0010	0.1	0.00004	0.001
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1048.2	0.59735	17.355

Results Summary

Result	Dry	Sat.
Total Normalized Mole%	100.0000	100.0000
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	65.0	
Flowing Pressure (psia)	25.0	
Gross Heating Value (BTU / Real cu.ft.)	1050.6	1032.7
Relative Density (G), Real	0.5985	0.5991
Compressibility (Z) Factor	0.9977	0.9974
Total GPM	17.355	17.158

Natural Gas Analysis Report SAN JUAN DIVISION

Sample Information

Sample Information	
Sample Name	BERGER A2S CASING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-08-12 07:54:38

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	5.3220	0.0	0.05147	0.587
Oxygen	0.0217	0.0	0.00024	0.002
Methane	92.0631	932.0	0.50994	15.638
Carbon Dioxide	0.0000	0.0	0.00000	0.000
Ethane	1.3010	23.1	0.01351	0.349
Propane	0.1063	2.7	0.00162	0.029
I-Butane	0.0984	3.2	0.00197	0.032
N-Butane	0.1575	5.2	0.00316	0.050
I-Pentane	0.0689	2.8	0.00172	0.025
N-Pentane	0.1161	4.7	0.00289	0.042
Hexanes	0.1889	9.0	0.00562	0.078
Heptanes	0.2195	12.1	0.00759	0.101
Octanes	0.3356	21.0	0.01324	0.172
Nonanes	0.0010	0.1	0.00004	0.001
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1015.7	0.61302	17.106

Results Summary

Result	Dry	Sat.
Total Normalized Mole%	100.0000	100.0000
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	65.0	
Flowing Pressure (psia)	25.0	
Gross Heating Value (BTU / Real cu.ft.)	1018.0	1000.6
Relative Density (G), Real	0.6141	0.6145
Compressibility (Z) Factor	0.9978	0.9975
Total GPM	17.106	16.914

Natural Gas Analysis Report

SAN JUAN DIVISION

Sample Information

Sample Information	
Sample Name	BERGER A2S TUBING
TECH	Tim Doering
GC Serial	GC1008B621
Report Date	2015-08-12 08:01:55

Component Results

Component Name	Norm%	Gross HV (Dry) (BTU / Ideal cu.ft.)	Relative Gas Density (Dry)	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	4.0792	0.0	0.03945	0.450
Oxygen	0.0169	0.0	0.00019	0.002
Methane	93.4392	945.9	0.51756	15.870
Carbon Dioxide	0.0745	0.0	0.00113	0.013
Ethane	1.6325	29.0	0.01695	0.437
Propane	0.1311	3.3	0.00200	0.036
I-Butane	0.1023	3.3	0.00205	0.034
N-Butane	0.1440	4.7	0.00289	0.045
I-Pentane	0.0645	2.6	0.00161	0.024
N-Pentane	0.0814	3.3	0.00203	0.030
Hexanes	0.0596	2.8	0.00177	0.025
Heptanes	0.0000	0.0	0.00000	0.000
Octanes	0.1708	10.7	0.00674	0.088
Nonanes	0.0040	0.3	0.00018	0.002
Hydrogen Sulfide	0.0000	0.0	0.00000	0.000
Water	0.0000	0.0	0.00000	0.000
Total:	100.0000	1005.9	0.59454	17.054

Results Summary

Result	Dry	Sat.
Total Normalized Mole%	100.0000	100.0000
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	65.0	
Flowing Pressure (psia)	25.0	
Gross Heating Value (BTU / Real cu.ft.)	1008.0	990.8
Relative Density (G), Real	0.5955	0.5962
Compressibility (Z) Factor	0.9979	0.9976
Total GPM	17.054	16.862